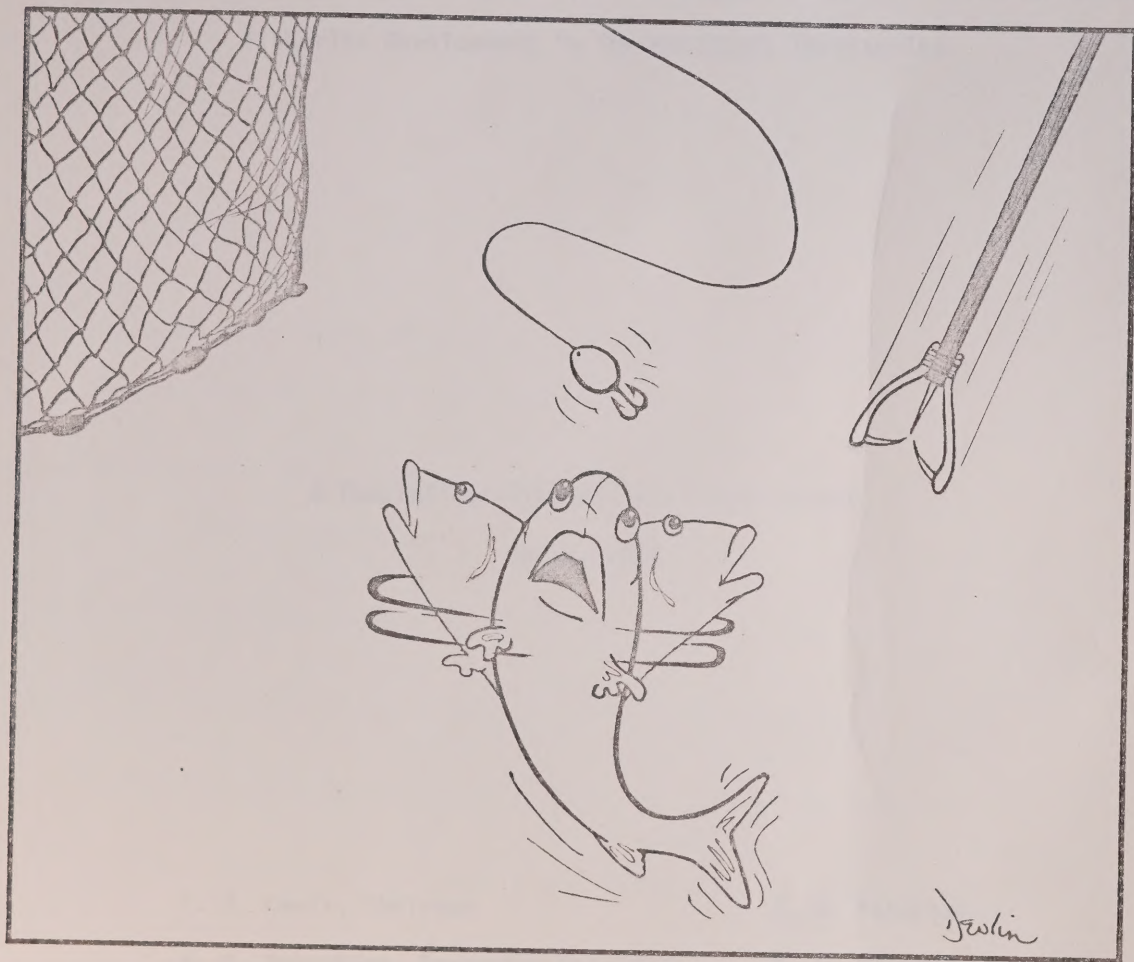


WHERE TO NOW ?

FISHERIES DEVELOPMENT IN THE NORTHWEST TERRITORIES



A FEDERAL-TERRITORIAL TASK FORCE REPORT
SECTION ONE
APRIL 1972

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Fisheries Development In The Northwest Territories

A Federal-Territorial Task Force Report

April, 1972

C. A. Lewis, Chairman

R. J. Paterson

M. R. Robertson, Executive Secretary

G. T. Glazier

M. H. Healey

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INTRODUCTION

Fish have long been considered one of the major renewable resources of the Northwest Territories. It had become obvious by 1971 that past methods of directing fisheries development had resulted in a variety of situations and establishments, some of which were of questionable value. Some fisheries were begun with the knowledge that they would require continuous subsidization. Others suffered from an inadequate supply of fish, mercury contamination, lack of firm market outlets, increased capital costs, or decreasing product prices, and have required financial assistance as a result.

In spite of the poor economic position of most Northwest Territories fisheries, there is increasing pressure to exploit the fish resources, simply because they are there and appear superficially to be a solution to social and economic problems. Although relatively large populations of fish have been discovered in some areas of the Northwest Territories, as yet there has been little comprehensive assessment of their productivity and sustainable yield. Without such assessment, it is extremely difficult to decide whether development should take place or what form it should take. The difficulties are compounded when one considers the rapid changes occurring in other factors, such as transportation and marketing, which may significantly affect the economic viability of these fisheries. It is important that the fish resources of the north be exploited in a way which will be of greatest benefit to

the residents of the North. Northern fish populations, if overexploited, are slow to recover, so that careless exploitation may render the resource useless to man for many years. Funds necessary to control and direct development are limited, so that they must be channeled to those areas where they are most needed. In order to do this, priorities must be defined for areas with potentially exploitable fish resources.

Recognizing these problems, the Federal and Territorial Governments in 1971 jointly established a Task Force to investigate fisheries development in the Northwest Territories. The full terms of reference of the Task Force are shown in Appendix One: however, the main objectives were:

- (1) the preparation of a specific plan or proposal for the development of the freshwater, marine and anadromous fishery resources of the Northwest Territories during the period 1972 to 1977;
- (2) the development of a continuing management system through which existing programmes can be assessed for their continuing adequacy, as well as past efficacy, and through which new programme proposals can be evaluated.

This is the first part of a three part report by the Task Force on these topics, and presents its major recommendations. Due to the prevalence of many misconceptions concerning fisheries development, it was agreed by the Federal and Territorial Governments that this part of the Task Force report should be circulated as widely as possible.



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"Fisheries development should be for the benefit
of the long-term residents of the North."

RECOMMENDATIONS

I. Fisheries Development Should Be for the Benefit of the Long-Term Residents of the North.

The Task Force strongly supports the principle that northern development should benefit northerners. Some past developments have not satisfactorily met this criterion. For example, many fly-in sports fisheries, such as some of those which have developed on Great Bear Lake, the East Arm of Great Slave Lake, and the char fisheries of the northern coast, are owned and operated by entrepreneurs not resident in the North. The bulk of the financial benefits from these fisheries accrue to southern Canada and the U.S.A. Such fisheries have provided insignificant employment for northern residents. The early development of commercial fisheries on Great Slave Lake also followed this pattern.

The initiation and operation of fisheries in the Northwest Territories, or the streamlining of existing fisheries, raises a number of important economic and sociological questions. The Task Force decided that an overriding criterion for new fisheries should be their economic viability. Assuming that this criterion was met, however, the next important question was: To whom should the economic benefits of the fishery accrue?

The Task Force recognized that the capital necessary to finance any extensive commercial or recreational fishery in the North

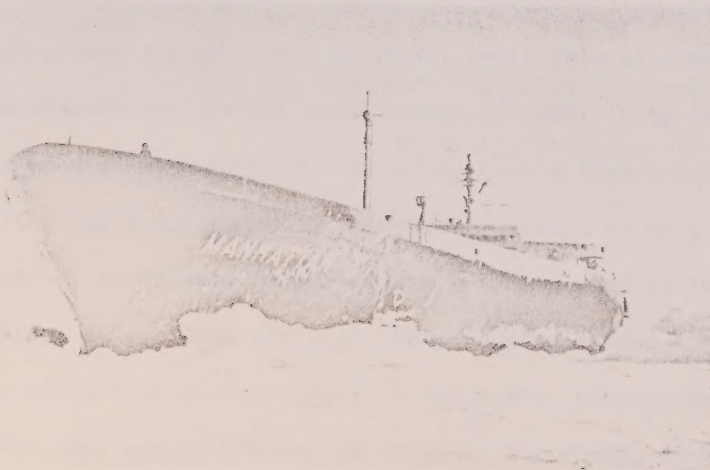
was unlikely to originate within the Northwest Territories. It would have to come from government or private sources to the South. The Task Force further recognized that private entrepreneurs would require a reasonable return on their investment, which would be income lost to the Territories. Nevertheless, we felt that in the past the economic return to the Territories from privately financed fisheries has been too small and that greater effort should be expended to keep fishery revenues within the Northwest Territories. There a number of ways in which this might be achieved, such as the encouragement of greater local financing of fisheries, especially recreational fisheries, either through co-operatives, low-cost loans, or direct economic aid. The practice of importing labour from the South for seasonal operations could be discouraged. Adequate training programs could also be initiated to develop the talents of residents so that they are qualified to succeed in a competitive fishery.

Attempts to encourage in-depth participation in fisheries by the indigenous peoples of the North have been largely unsuccessful in the past. The Task Force felt that this was probably a result of many interacting factors, but the overriding ones were: (a) the assumption that every native was a natural commercial fisherman; (b) the assumption that the ambitions and aspirations of the natives were similar to those of European ancestry, and (c) the use of fisheries as a welfare supplement.

Many fish stocks of the North are too isolated and unproductive to support an economically viable commercial fishery based on export to



High transportation costs are one of the main limiting factors in any northern development.



southern markets. It is, however, possible for fish from these areas to compete with other sources of protein for local markets. Intersettlement trade involving fish has begun in some areas in the North, and may offer a partial solution to the problems of economic stagnation and unemployment in isolated areas. It also provides a way to introduce residents to the economic philosophy of the South without committing them to a high capital investment or tying them to a government subsidy. Provided steps are taken to protect local stocks of fish from over-exploitation, and to gradually introduce more sophistication into the operations, vigorous intersettlement trading probably offers the greatest potential benefit from fisheries in isolated regions.

II. To Keep Development Options Open, Exploitation Methods Which
Depress the Resource Base for an Extended Period
Should Be Discouraged.

It seems to be a general feature of northern fish populations that, while they have a high standing stock, their rate of production is low. The sustainable yield from these stocks is small in spite of what appears to be an abundance of fish. Managing such a fish stock on an annual sustained yield is generally uneconomic, except in very large lakes. As an alternative, a six-year harvest cycle has been used in the Northwest Territories: this allows six years of estimated annual commercial harvest to be taken from smaller lakes in two years, after which the lake lies fallow for four years. Recent advances in the theory of fishing suggest that this is a very acceptable management technique which may



Expanded intersettlement trade offers a good opportunity for market expansion.



also be applied to river systems. However, there are areas where even this technique, or any other reasonable harvest cycle, will not yield an economic harvest. The two opposing forces are high transportation costs which require a large volume of harvest in a short time period for greatest economic return against low productivity of northern fish stocks which permits only a small harvest over a long period of time.

The desire for economic expansion in the North through exploitation of natural resources has led to the proposal to "mine" certain fish stocks. That is, to rapidly crop most of the standing stock and then leave the area fallow to recover. There are many biological and sociological objections to this procedure, which make it seem not worthwhile. The total value of the harvest, even if this method is used, is not very great, and it would only be of advantage to an outside entrepreneur interested in a quick profit. The short-term benefit to residents of the North would be insignificant, and they would be unable to utilize the fish resources of the area for many years. The presently available biological information necessary to manage such a harvest is meager. Whatever the biological consequences of such a drastic form of commercial harvest, the recovery time for the fish stock is likely to be long in relation to changing transportation systems and other features of northern economics. It seems unwise to commit ourselves to a procedure that is basically destructive of a renewable resource, when in a few years conditions may have changed to the point that more biologically acceptable methods of exploitation are possible.

A parallel situation exists in those sport fisheries of the North founded upon the harvest of trophy-sized fish. The stock of such large fish is small and their rate of production is smaller still. Any recreational fishery predicated on the supply of such fish is sure to have a limited life span, unless only the lightest of harvest rates is allowed. The ultimate disappearance of extremely large fish from many northern areas is probably inevitable, but the Task Force recognized that the decision to overexploit some regions may not have been made within the Territories, but by the private investor. If such ventures were financed from within the Territories, and the bulk of the revenues resulting from them were to remain in the Territories, then they might be justified as short-term economic boosters. Under existing conditions the short-term gains to the Territories are small, and the stocks of large lake trout and Arctic Char are being depleted. Existing programmes of this nature should be reassessed with a view to increasing the economic return to the Territories, and to changing their emphasis so that the enterprise will not die with the disappearance of the large fish.

There also exists the very real pressure to set quotas for fishery harvest, particularly in the northern Northwest Territories, before any stock assessment is possible. The Task Force recognized the necessity to set such quotas, but strongly recommends that they be kept conservative and properly monitored to ensure the presence of an exploitable population over a long period of time.

III. Harvesting of Fish for Domestic Purposes Should Take Precedence over Commercial or Sports Development.

Present government policy is to ensure that native people in the North have the option of retaining their traditional way of life. This can only be a meaningful option if the fisheries resource remains available for domestic consumption. Domestic harvest, therefore, must take precedence over sport or commercial use of fish stocks.

IV. Development Should Meet the Following Criteria:

- (i) *There should be an adequate supply of fish.*
- (ii) *The development should be economically viable within a five-year period.*
- (iii) *The residents should want it.*

(i) *There should be an adequate supply of fish.*

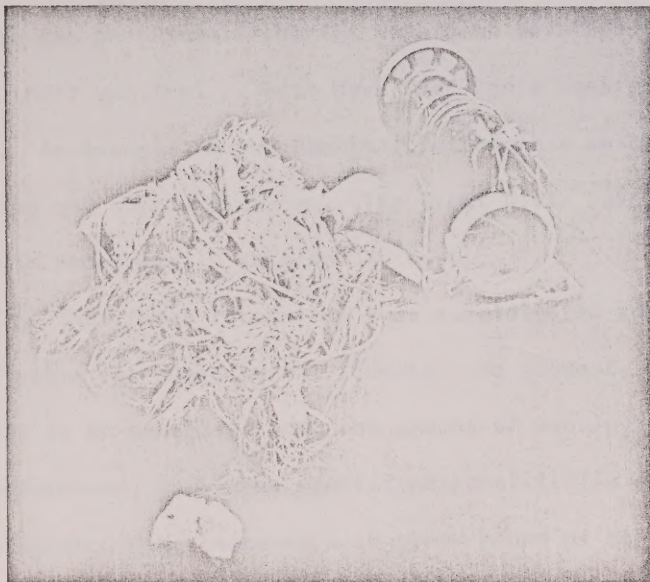
The lakes and rivers of the Northwest Territories constitute about sixty per cent of the freshwater area in Canada, but yield only four per cent of the commercial fish, partly because exploitation of about half the area is seriously affected by high production costs and therefore is not fished, and partly because the productivity of northern waters is low.

The total supply of fish from the N.W.T. lakes and rivers estimated at an average yield of one-half pound per acre is approximately

fifteen million pounds. When domestic and sports fishery catches are added to the present commercial landings of about five million pounds very little increase in natural freshwater fishery production appears possible unless the area fished is increased. Trophy fish, because of slow growth rates, will disappear from all fisheries unless exploitation exceeds a very minimal rate.

Some past developments have run into problems because the supply of fish has been inadequate. The number of fish in an untapped northern fish population may be large; this, however, represents a capital stock, and once this capital stock is removed (which might take only a few years), many years are required for regeneration. During this regenerative period even the small annual increment is unavailable for harvesting. Examples of fisheries which have experienced this problem are the trophy lake trout fishery in Great Bear Lake; and the char fisheries of the Tree, Ekalluk and Sylvia Grinnell rivers.

In addition, many presently unexploited populations which appear to be well supplied with fish will not in fact produce a large sustainable yield. A major risk of overexploitation exists, particularly for the development of any commercial fisheries in the Arctic. This includes the coastal fisheries now under consideration. Consequently, it is necessary to assess fish stocks before exploiting them. Along with this it is most important to regularly monitor the harvested fish stocks, so that quota adjustments may be made which reflect watershed production differences, and to prevent overfishing.



Many types of fishing gear are encountered in the North.



Otolith from a twelve-year old char from Sylvia Grinnell River.

(ii) The development should be economically viable within a five-year period.

In the past some fisheries have been developed which could not stand on their own feet. These have required a constant infusion of public funds. An example is the Rankin Inlet cannery which has experienced marketing and supply problems. The Great Slave Lake commercial fishery is also economically marginal at best.

The Task Force recognizes that subsidies to some fisheries might be desirable for sociological reasons. We suggest, however, that when a fishery is to be subsidized, the amount of subsidy should be determined beforehand, should be identified specifically as a subsidy, and in planning should be compared with other means of achieving the same benefits.

(iii) The residents should want it.

Assuming that the above two criteria are met, the success of a development will be dependent upon the willingness of the people to support and work for it. Past developments sometimes have been initiated although the residents may not have realized all the associated constraints and ramifications, including the need for their work and co-operation to ensure success. It is also desirable that fisheries not be pushed onto local groups by outside developmental pressures. To give northern residents a meaningful choice and a real participation in decisions that affect their future, fisheries developments should only occur when the residents are aware of their implications and clearly want them.

V. Existing Fisheries Should Be Re-assessed in Light
of the Criteria Recommended Above.

At present public funds are being spent on fisheries which may not meet the above criteria. Re-assessment may show that these funds could be spent elsewhere with greater benefit, or that they are being usefully spent at the present time. Conditions governing fisheries are constantly changing, however, and it is desirable to continually review their success and future course.

VI. Fisheries Managers Should Be Consulted in Planning
the Use of Other Natural Resources.

Any development which affects the watershed affects the fish resource. Examples are mining, hydro developments, road construction, and petroleum exploration. In the past, resource developments have taken place without adequate consideration of their effect on aquatic life. These developments can jeopardize fisheries, and consequently, to reduce the risk of such damage, a fisheries input is vital in the early planning stage of any northern resource development.

VII. A Program Review Committee Should Be Created Immediately.

To meet the needs of northern residents, and the criteria for successful development, the activities of the large number of agencies

concerned with fisheries must be co-ordinated. The Task Force suggests this may be achieved by establishing a small, individually funded Program Review Committee. The functions of the committee should be to assess and to report on existing and proposed fisheries development programs in the Northwest Territories.

The Program Review Committee should prepare an annual report, which should become a public document following its submission to the Federal and Territorial Governments. The committee should be organized:

(1) as a small committee, with three members chosen as follows:

- one from the Fisheries Service, Environment Canada,
- one from the Government of the Northwest Territories,
- one other, who should be an independent member resident in the N.W.T.,
- these members should have overlapping three-year terms on the committee.

(2) with a full-time secretary, resident in the Territories, who is an employee of the Territorial Government.

(3) a chairman elected by its members.

(4) annual funding of the group should be provided.

(5) the committee should convene meetings with the public and/or any other persons whom they think could contribute to their deliberations.

VIII. More Consideration Should Be Given To Encouraging
Sports Fisheries in the N.W.T.

The Northwest Territories are renowned for their remarkable sports fishing. Investment from the private sector generally has been directed towards sports fishery development, with a significant degree of success, while government ventures in the past have favoured the commercial fisheries. It is clear that many sports fishing undertakings are both thriving and economically viable, and it appears that this type of undertaking has been somewhat overlooked in fisheries planning within government. Sports fisheries can yield a far greater return for each fish harvested, generally with less stress on the resource. The Task Force therefore recommends that greater emphasis be given to encouraging sport fish harvests.

IX. Information on N.W.T. Fisheries Should Be Readily Accessible
To Those Involved in Fisheries Development,
and To the General Public.

Duplication of effort in N.W.T. fisheries should be avoided. It is, therefore, important that past information collected concerning fisheries be made freely available, not only to avoid such duplication, but also to act as a baseline for determining changes which have occurred or which are occurring.

RECOMMENDED PRIORITY AREAS

Accepting the criteria proposed above, no specific developments can be recommended with certainty of success. There are fish resources which could be exploited, but the economic success and long-term yield from development of these resources is not certain.

A number of areas requiring further investigation have already been developed to some extent. This is logical, because past development naturally has tended to occur where the largest fish resources were. Potentially, however, the patterns of development could be improved.

The following areas, listed by priority, are being exploited at present, but still remain the most probable areas for further viable fisheries development:

1. Great Slave Lake (sports and commercial).
2. Lakes around Great Slave Lake, road access fisheries, short distance fly-in fisheries (sports).
3. Char fisheries on certain north coast rivers flowing into Coronation and Queen Maude Gulfs, and Rasmussen Basin (sports and commercial).
4. Great Bear Lake sports fishery.
5. Rankin Inlet area (primarily commercial).

Other areas with recognized stocks of fish have not yet been exploited to any extent. The following list of possible developments is

proposed with the understanding that they should not occur immediately, but that with careful planning, controlled development might be to the benefit of northern residents and the northern economy.

1. *The Mackenzie Delta.* The potential here lies primarily in a commercial fishery development exploiting the many small lakes and tributaries within the delta area.
2. *Camsell River Drainage.* There is both sports and commercial potential here, depending upon the water body considered. A balance of these uses should be strived for.
3. *Keewatin Lakes.* In the southern Keewatin sports development appears to be feasible; however, it appears that commercial exploitation is more realistic in the northern areas and larger lakes, due to climatic limitations.
4. *Baffin Island Coast.* The scenic value of this area suggests that sports fishery development will be the most successful form of exploitation since other natural factors, such as landscape and solitude, can greatly enhance the success of sports fishing ventures.

APPENDIX ONE

TERMS OF REFERENCE FOR TASK FORCE ON
FISHERIES DEVELOPMENT IN THE NORTHWEST TERRITORIES

Initially it is essential that the Task Force determine the objectives underlying commercial, recreational and domestic fisheries development programs in the N.W.T., identify the explicit and/or implicit policies that relate to the achievement of those objectives, and define the roles of the various departments and agencies contributing to the management of the fisheries resource.

We propose that the main functions of the Task Force should be:

1. The preparation of a specific plan or proposal for the development of the freshwater, marine, and anadromous fishery resources of the Northwest Territories during the period 1972 - 77.
2. The development of a continuing management system through which existing programs can be assessed for their continuing adequacy, as well as past efficacy, and new program proposals can be evaluated.

Item 1:

The five-year time frame acknowledges the limitations of forecasting during a period of rapidly accelerating change and recognizes the short-term constraints affecting such developments. The report of the

Task Force should specify areas which offer the best prospects for development within the next five years. These prospects will depend upon the limnological and biological information available, the degree to which waters are currently utilized, market conditions, the availability of labour and capital investment, economic transportation and so forth. It is assumed that the Task Force will limit itself to the identification of the significant alternatives available and to the consequences of their implementation. The decision as to the actual course of action will remain a management prerogative.

Item 2:

The functions of long-term planning, program review and assessment, and the continuing process of decision-making are best executed within an integrated and systematized program. This program must be a part of the existing organizations. The objective should be to develop this capability so that further task forces will be unnecessary in the future. This will require the Task Force to identify all pertinent biological, economic and social variables that relate to fisheries development. In addition, the Task Force should investigate the interrelationships among these variables and assess their usefulness for the functions indicated above.

Recommendations:

1. The Task Force should be composed of not more than six members chosen from the Government of the Northwest

Territories, the Fisheries Service of the Department of the Environment and the Fisheries Research Board of Canada.

2. Representatives of other agencies may be called in on a consulting basis. These would include, for example, the Freshwater Fish Marketing Corporation; the Federal Departments of Indian Affairs and Northern Development, National Health and Welfare, Transport; representatives of the private sector; and other representatives as the Task Force may suggest.
3. A representative of the Territorial Government should be appointed Chairman. His responsibility will be to convene and chair meetings of the Task Force. This position will be compatible with other duties.
4. An Executive Secretary should be appointed from the Fisheries Service. This person should be freed from all other responsibilities for the duration of the Task Force. His duties will be to co-ordinate research, obtain inputs from a number of related departments and agencies, and assume responsibility for the drafting of the final report.
5. It is proposed that the date of March 31st, 1972, be set for completion of the final report. It is hoped that Item 1 of the report can be completed as soon as possible and will be available at an earlier date but it is likewise recognized that parts of Item 2 may require more time to develop than has been allowed.

6. Upon submission of its final report, the Task Force will have finished its duties.
7. The venue of meetings should alternate between the Northwest Territories and Winnipeg.

